January 15, 2010

Chief, Authorizations Branch
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

Subject: Request for unlicensed Modular Transmitter Approval.

Reference: FCC 07-56A1 47 CFR 15.212

To Whom It May Concern:

Alereon, Inc. hereby requests FCC Equipment Authorization as a Single Modular Transmitter of the Alereon, Inc. Model AL5730 Worldwide Wireless HDMI PC Extender Module, FCC ID: U9YAL5730. Alereon, Inc. intends to manufacture this device and market it as a computer modular component. This letter addresses the information required by points one through eight of 47 CFR 15.212.

1. The modular transmitter must have its own RF shielding. All shielding necessary for normal operation is accomplished by the multi-layer construction of the printed wiring board which incorporates multiple grounded conductor layers shielding all critical radio-frequency circuits including the frequency-determining components. As this transmitter is designed to operate stand-alone in its own enclosure, connected to industry-standard interfaces, no additional shielding is incorporated to minimize coupling such as might occur if the module were incorporated within another unit.

2. The modular transmitter must have buffered modulation/data inputs. The Alereon AL5730 receives data via the industry-standard HDMI or VGA interfaces. The HDMI interface is implemented within the SII9034 integrated circuit as may be seen on sheets thirteen and fourteen of the schematic diagram included in the filing for FCC Equipment Authorization. The VGA interface is implemented within the DL125 integrated circuit as may be seen on sheets twelve and fifteen of the schematic diagram included in the filing for FCC Equipment Authorization. These digital interfaces limit the data rate and modulation.

3. The modular transmitter must have its own power supply regulation. The Alereon AL5730 receives power from an external +5.0 Volt power unit. The +5.0 Volt source is conditioned on the module to power a +3.3V domain and the +1.2V digital subsystem domain plus three additional power domains required by the module circuitry; +2.6V, +2.4V and +1.8V. The power regulation topology may be seen on sheet twenty of the schematic diagram included in the filing for FCC Equipment Authorization.

4. The modular transmitter antenna must comply with the antenna and transmission system requirements of sections 15.203, 15.204(b) and 15.204(c). The antenna of the Alereon AL5730 is a directional dipole type. The antenna is intended to be permanently

mounted inside of the product housing and the connector is not accessible to the user. The U.FL connector complies with the requirement of FCC 15.203 for a unique coupling.

5. The modular transmitter must be tested in a stand-alone configuration. As described in section 1.3 of the test report included in the filing for FCC Equipment Authorization, the AL5730 UWB Module plus antenna was tested without a housing. For the tests reported the AL5730 was connected to the USB port of a standard P.C. using a USB interface board to furnish connection to the factory test port on the AL5730 PCBA. This arrangement of the unit, interface board and P.C., represents the factory test and calibration configuration, not accessible to the user but which provides the necessary control of the unit to execute the FCC required tests for compliance. The AL5730 is designed with an industry-standard HDMI connector as its electrical and mechanical interface to the host system and with the industry standard Mini-D video connector as its electrical and mechanical interface to an attached VGA display device and a standard stereo jack for speakers connection.

6. The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number. The Alereon AL5730 is intended to be placed within an enclosure unique to the brand I.D. under which it is marketed. The prescribed label with the FCC Identifier will be applied to the outside of the housing. Additionally, the module will have a label affixed to the PCBA which includes the FCC identifier. An example of the label which will be used is included in the filing for FCC Equipment Authorization.

7. The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter. Part 15.519 of the FCC rules and Regulations requires that a UWB transmitter shall transmit only when it is sending information to an associated receiver. That rules part also requires that the UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting. This requirement is met by design and is implemented by the firmware encoded into the device.

8. The modular transmitter must comply with any applicable RF exposure requirements in its final configuration. There are no RF exposure requirements for UWB devices operating under subpart F of the FCC Rules and Regulations.

David M. Dickson
Sr. Principal RF Engineer
Alereon, Inc.